

**TOKAI HIT**<sup>®</sup>**ThermoPlate**<sup>®</sup>**Microscope-Stage  
Automatic Thermocontrol system**

Ensure more accurate and reliable thermal control of the specimens during the observation under a microscope.  
Wide product range supports Biotechnology Science and Industry use.

**Stage Top Incubator**<sup>®</sup>**Incubation System for Microscopes**

Offering precision temperature, humidity and CO<sub>2</sub> control, the STX/STR/INU series make real-time Cell Culturing possible on the microscope stage.

All for Living cells  
for your imaging<sup>®</sup>



**STX**  
Stage Top Incubator



**STR**  
Stage Top Incubator



**TPX**  
Thermo Plate

[www.tokaihit.com](http://www.tokaihit.com)

**TOKAI HIT****TOKAI HIT Co., Ltd.**

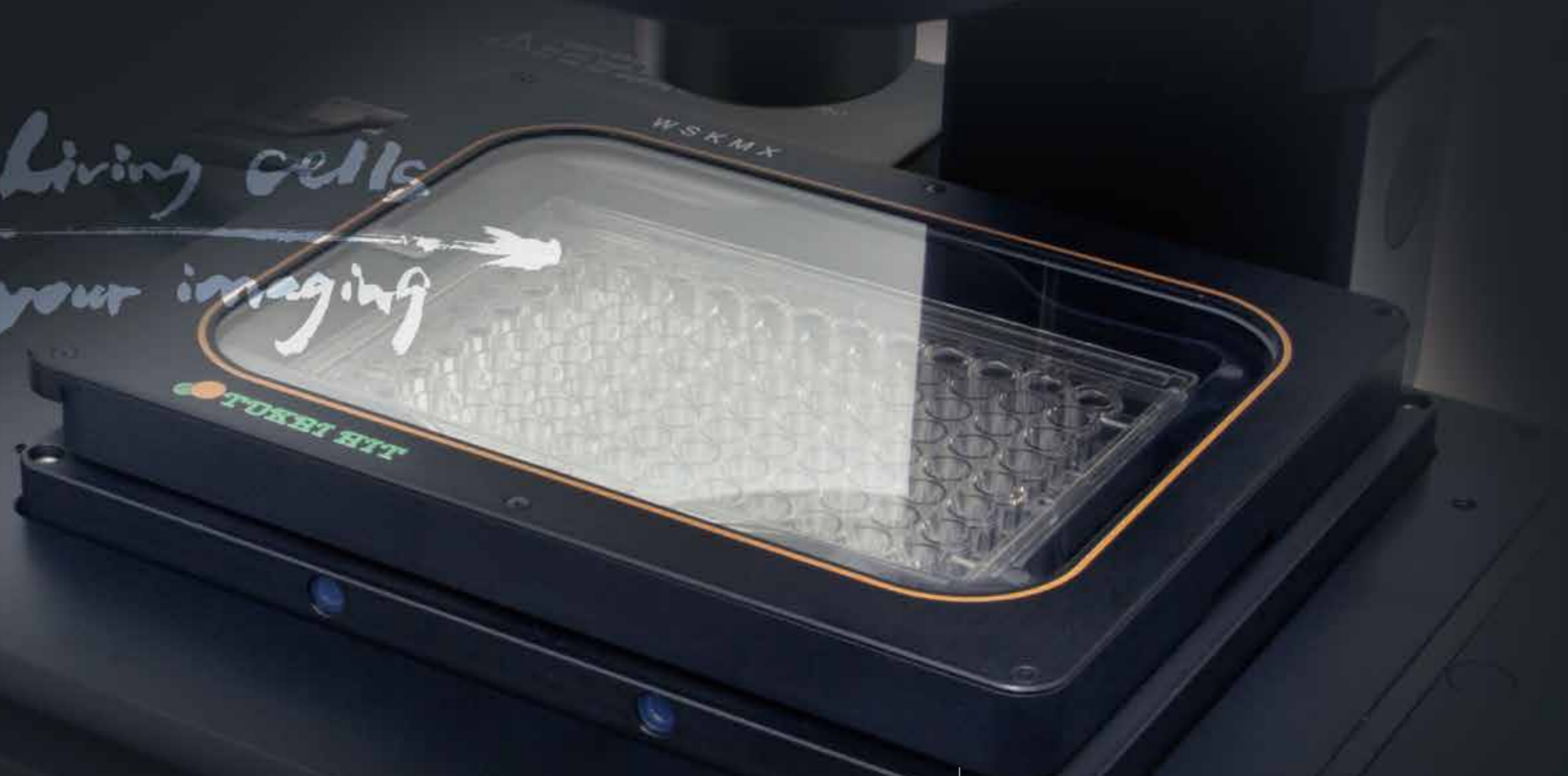
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Please pay special attention to items marked with Caution  
and Warning symbols as seen on the left. It is essential to  
read the Instruction Manual when using this device

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For Living cells  
All for your imaging



TOKAI HIT will...

Pursues the joy of inspiring our customers.

Manufacturing product conscientiously.

Contribute to our community and society.

Temp., humidity and CO<sub>2</sub> GAS control instrument  
for Time-laps imaging

## STX Standard Model Stage Top Incubator

22 years of our technical  
know-how is here.

"STX" is our answer to the optimized  
incubating environment.



Application

Add-on Systems



Line up common application of add-on  
system for Incubator.  
Solutions for variety of experiment.

- Media Exchange System
- Drug Delivery
- Hypoxia
- CO<sub>2</sub> Change
- Media Overflow Detector

## STR Entry Model Stage Top Incubator

Refer Page 7P

Deliver High-Quality system to everyone!



Reaching out to every user  
in every country who requires  
great cost performance &  
simple yet high-quality system.

Incubation System for Microscopes

Refer Page 9P



Well-established former  
standard incubation system.  
The cooling/heating incubators  
and exclusively designed  
system for microscope, piezo  
stage are from this series.

## TB ThermoBox

Refer Page 10P



Built-in fan-heater (2pc) effectively  
heat the environment inside the  
enclosure and faster to maintain  
target temperature.

Save your working and setting space  
with built-in fan heater. There are not any  
air duct required.

- Type: Clear or Black available

Temp. Management System  
(for IVF and/or basic research)

ThermoPlate

## TPX

Refer Page 15P

10year warranty  
Stress-Free from glass breakage



Ensure more accurate and reliable thermal control of the  
specimens during the observation under a microscope.  
Now the Clear Glass Heater uses tempered glass and it  
has 10 year warranty for glass breakage. Aim to minimize  
the risk of glass breakage to the maximum.

# STX

Standard Model

## Stage Top Incubator

22 years of our technical know-how is here.

## Happiness for Cells, Success for Researchers

To support successful cell culturing with new features.  
"STX" is our answer to the optimized incubating environment.

All for Living cells  
for your imaging

### A fail-proof Incubation

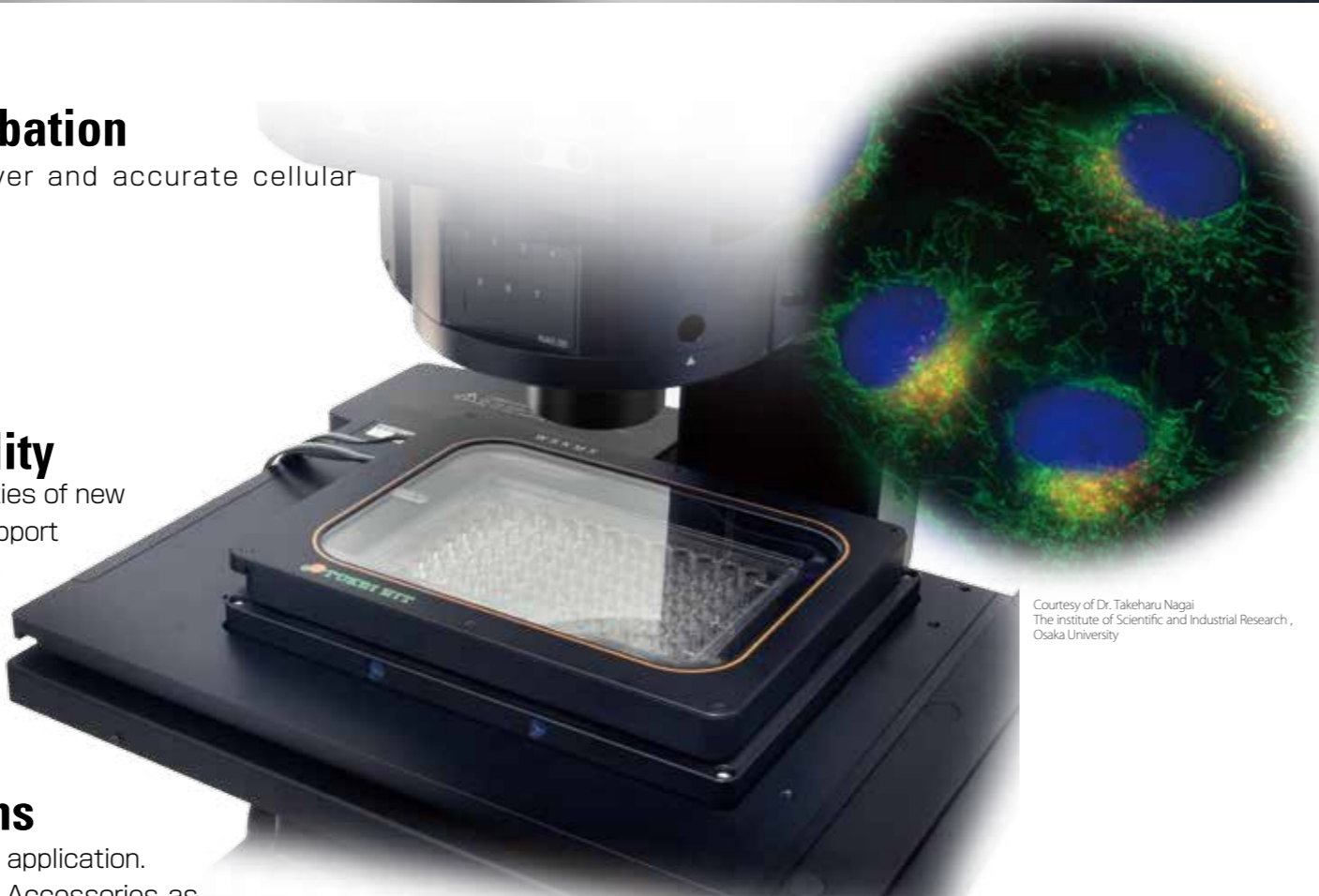
Provides an easy, cleaver and accurate cellular environment.

### Stress-Free Quality

Intuitive operation and varieties of new functions are included to support cell culturing without stress.

### Simple Selections

Easy add-on and expand the application.  
Now available with common Accessories as standard



Courtesy of Dr. Takeharu Nagai  
The Institute of Scientific and Industrial Research,  
Osaka University

### Accessories (included in the system)

Enable to support Well Plate, 35mm, 50/60mm dish, chamber slide, slide glass and chambered coverglass.

#### Dish Attachment



Model:  
ATX-A  
ATX-W (Well Plate)  
ATX-D (35, 50/60mm dish)  
ATX-CSG  
(chamber slide, slide glass and chambered coverglass)

#### Magnetic Fixing Lid



Model:  
LX-W (Well Plate)  
LX-D35 (35mm dish)  
LX-D56 (50/60mm dish)  
LX-CSG  
(chamber slide, slide glass and chambered coverglass)

### Stage Adapter (optional)

Please order and select the suitable Stage Adapter based on the stage and used chamber unit type.

#### Stage Adapter



Model : MK-IX3  
Stage: IX3-SVR  
IX3-SSU



Model : MK-SIG  
Stage: BX3-SSU  
IX2-SFR/SVL2

### Controller



Model :  
**STXG**

Temp. Controller with built-in digital gas mixer for 100%CO<sub>2</sub> gas use.



Model :  
**STXF**

With a gas flowmeter for premixed gas use.

### Digital Gas Mixer (optional)

For Low Oxygen Control (hypoxia)  
100%CO<sub>2</sub> & 100%N<sub>2</sub> gas cylinder use



Model :  
**STX-CO202**  
CO<sub>2</sub>:5.0-20.0%  
O<sub>2</sub>:0.1-18.0%  
\* for STXG and STXF controller

For CO<sub>2</sub> concentration adjustment  
100%CO<sub>2</sub> gas cylinder use.



Model :  
**STX-CO2**  
CO<sub>2</sub>:5.0-20.0%  
\* only for STXF Controller system.

For O<sub>2</sub> concentration adjustment  
100%N<sub>2</sub> gas cylinder use



Model :  
**STX-O2**  
O<sub>2</sub>:0.1-18.0%  
\* must use with STX-CO<sub>2</sub>. it cannot use as stand alone.

Support Well Plate  
Cannot install on Piezo stage

Temp. Controller with built-in digital gas mixer.  
Temp. Controller with a gas flowmeter for premixed gas.

Model  
**STXG-IX3WX-SET**  
Model  
**STXF-IX3WX-SET**

※ Above "SET" model is including Chamber Unit, Controller, magnetic Dish Attachment and magnetic dish Fixing Lid.

## Chamber Unit componets

### Top Heater

The Clear Glass Heater that combines the function of the maintaining sample temperature and prevent condensation to keep clear, continuous illumination transmission.

### Glass Lid with Sensor

Secure the Tokai Hit external sensor on the lid. The magnetic method has increased its user friendliness.

### Dish Attachment

ONE-SHOT magnetic attachments supports 35mm, 50/60mm, chamber slide, slide glass, chambered coverglass.

### Bath Unit

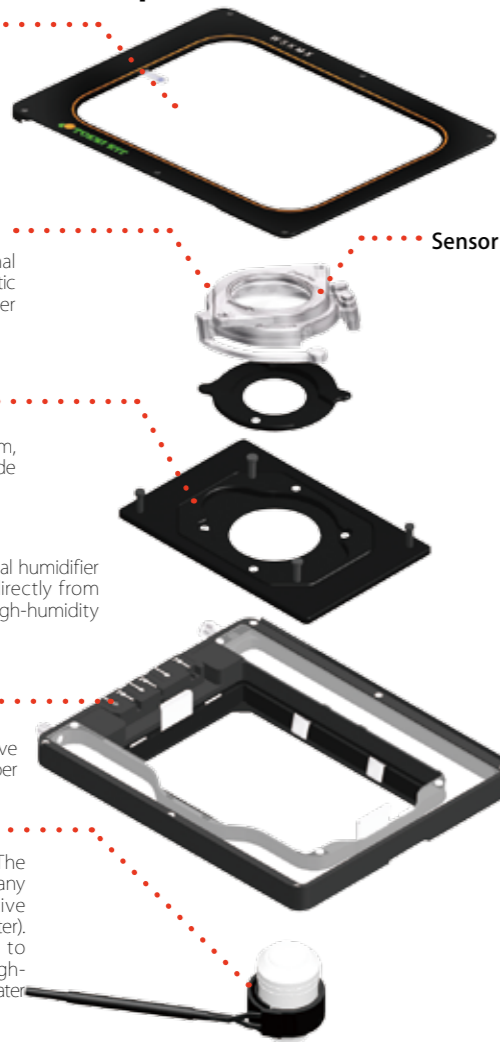
Holds sterile water as internal humidifier and Bath Heater heats it directly from beneath to generate the high-humidity inside the chamber unit.

### Access Ports

For sensor and media exchange/drug administrative tubing out from inside chamber unit.

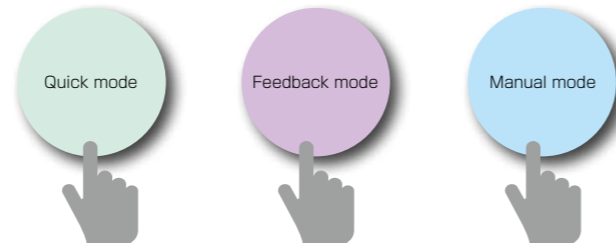
### Lens Heater

It is a New Rubber heater. The stretch designed will fit many different types of objective lenses (up to 40mm diameter). Strongly recommended to use when observing in high-magnification using an oil/water immersion lenses for



## Incubation Modes

Select from 3 Modes (Quick Mode, Feedback Mode, Manual Mode) serves the needs from beginners to experts. Enable to choose the most appropriate mode for the particular experiment.

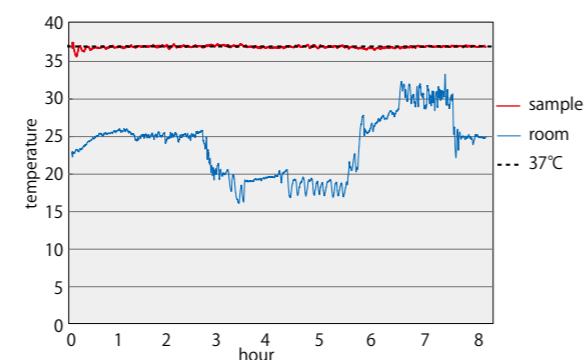


	Quick mode	Feedback mode (※)	Manual mode
Sample Temp.	37°C	30 - 40°C	37°C
Room Temp.	25°C± 2°C	20 - 28°C	25°C± 2°C
Live cell imaging	Long △ Short ○	◎	○
Room Temp. is unstable.	×	◎	×

## Sample Feedback Mode (Pat.P) Temperature Control by Feedback

Sterilized temperature sensor makes it easy to measure the Temp. of culture media. The controller regulate the heater based on the sensor signal to keep it at the intended temp. accurately.

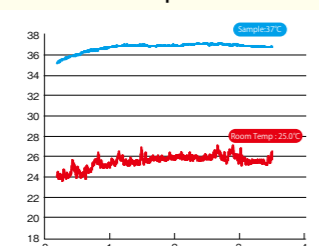
Sample temperature set at 37.0 degree C



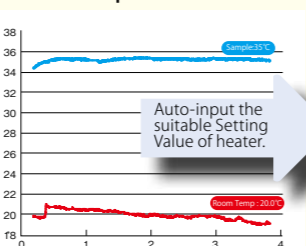
### Quick mode test

Simply select room temp. range and vessel type to start cell culturing. The system will call different parameter patterns to keep the sample temp. closed to 37.0 °C automatically.

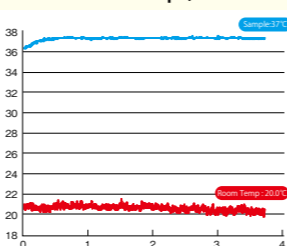
a) using 23-27°C parameter in 25°C room temp. (◎)



b) using 23-27°C parameter in 20°C room temp. (×)



c) using 20-22°C parameter in 20°C room temp. (◎)

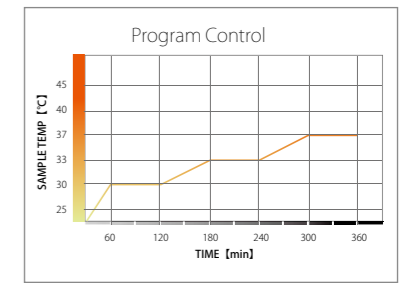


## Simple Operation & Setting

GUI will assist to visualize the preparation to setting. For all users and lead your cell culture to success.

## Programmable Control

The system includes the software to program Temp. and CO<sub>2</sub>/O<sub>2</sub> (CO<sub>2</sub> and O<sub>2</sub> control can be programmed with specific controller only) as This function allows to expand the experiment field.



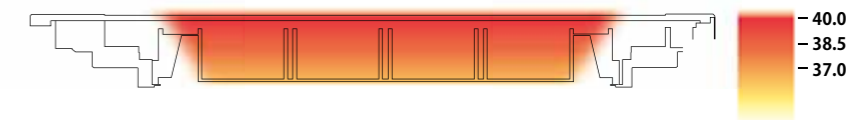
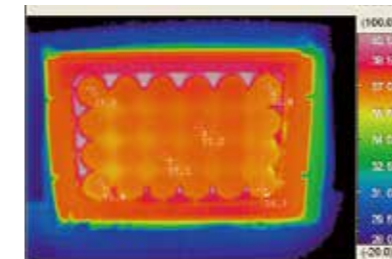
## Screen Capture

Programming to transfer images to smart-phones and tablets. You can see the image at home at late evening.



## Tokai Hit's Heating Quality

Tokai Hit's original top heater is proven to distribute Temp. evenly within the chamber, regardless of the type of vessels.



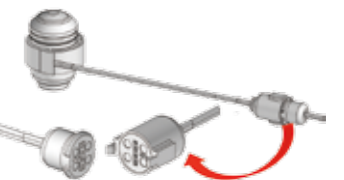
## Tempered Glass

It minimizes the risk of glass breakage to the max.



## Wreck Proof Lenses Heater Cord

The magnet relay connector will automatically come off when the cord gets tangled in the objective revolver or pulled by certain tension. The connector can be locked upon the requirements.



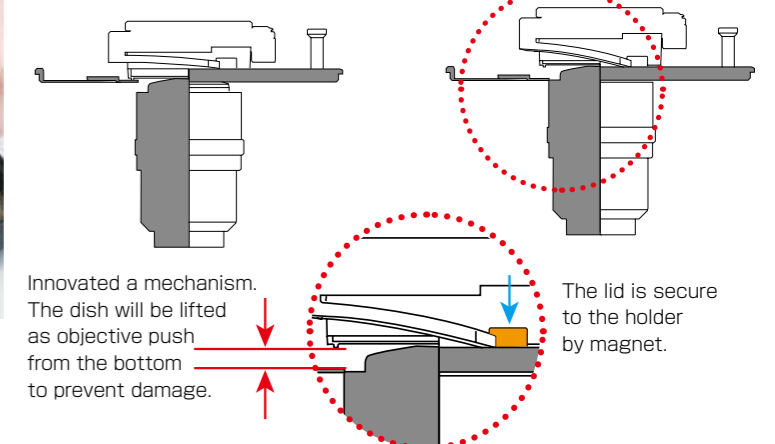
## ONE-SHOT fixing

Magnetic attachments are more stable and easy to attach to the chamber and innovated a mechanism to prevent damage to the vessel coverglass bottom and objective head caused by interferences.



No interference with objective.

When the objective pushing the vessel from the bottom hard.



# STR

Entry Model  
Stage Top Incubator

## Deliver High-Quality system to everyone!

Reaching out to every user in every country.

We wish to introduce great cost performance system with 22 years of our technical know-how in.



## Simple Entry model

Start time-lapsing without a hassle with our simple product selection and function.

Expand application with add-on systems possible.

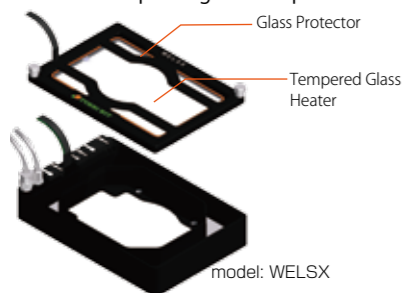
## Tokai Hit temp. distribution Quality

Tokai Hit's original top heater is proven to distribute Temp. evenly within the chamber, regardless of the type of vessels.



## Tempered Glass

Minimizes the risk of glass breakage to the max with tempered glass and protector.



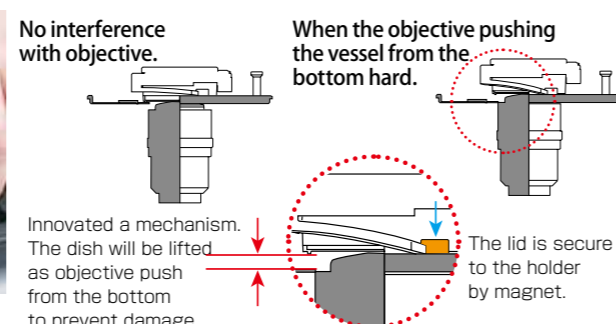
Model  
**STRG-WELX-SET**  
Temp. Controller with built-in digital gas mixer.

Model  
**STRF-WELX-SET**  
With a gas flowmeter for premixed gas.

\* Above "SET" model is including Chamber Unit, Controller, magnetic Dish Attachment and magnetic dish Fixing Lid.

## ONE-SHOT fixing

Magnetic attachments are more stable and easy to attach to the chamber and innovated a mechanism to prevent damage to the vessel coverglass bottom and objective head caused by interferences.



## Simple yet high-cell culture performance

Maintains a high-capability of cell-culturing environment without complicated functions.

## Universal Design

The external dimensions of the WELSX is 127x85mm, which is the same as well plates. It could be used on all stages that fits a well plate. With new designed Touch Panel operation has made the operation easy and simple.



Same size as wellplate (127x85mm)



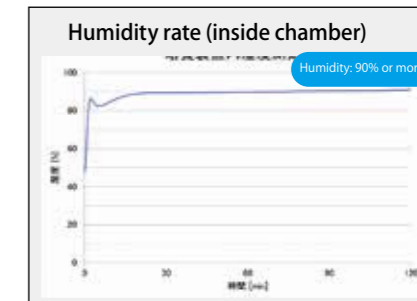
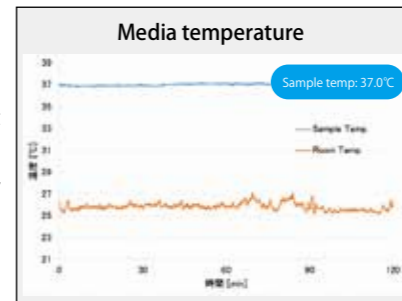
## 10 minutes setup

The system is Simplified Designed. Only connect 4 lines to start.

\*cut the time used for setting up the machine.

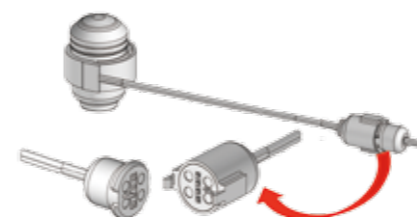
## Tokai Hit Temp. & HUM

Save complicated function but it keeps obtains a stable thermal environment under a determinate room environment. The built-in bath unit keeps the humidity level inside the chamber at 90% and up.



## Wreck Proof Lenses Heater Cord

The magnet relay connector will automatically come off when the cord gets tangled in the objective revolver or pulled by certain tension. The connector can be locked upon the requirements.



## Controller



Model: **STRG**  
Temp. Controller with built-in digital gas mixer.



Model: **STRF**  
Temp. Controller with a gas flowmeter for premixed gas.

## Accessories (included in the system)

### Dish Attachment

Model:  
**ATX-D** (35, 50/60mm dish)  
**ATX-CSG**  
(chamber slide, slide glass and chambered coverglass)

Dish Attachment  
Enable to support 35mm, 50/60mm dish, chamber slide, slide glass and chambered coverglass.

### Magnetic Fixing Lid

Model:  
**LX-D35** (35mm dish)  
**LX-D56** (50/60mm dish)  
**LX-CSG**  
(chamber slide, slide glass and chambered coverglass)

### Stage Adapter (optional)

Please order and select the suitable Stage Adapter based on the stage and used chamber unit type.



Model: **WELSX-SIG**  
For 110mm diameter opening stage  
Stage: BX3-SSU, IX2-SFR/SVL2



Model: **WELSX-IX3**  
Stage: IX3-SSU / IX3-SVR

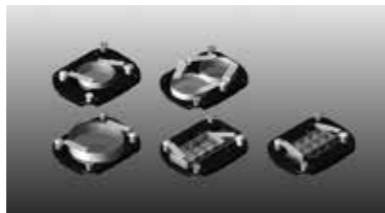


Model: **WELSX-K**  
For general XY motorized stage with 110 x 160mm aperture.



Exclusive designed system for specific microscope and/or piezo stage. It offers stable temperature control for time-lapse imaging possible.

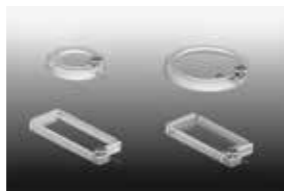
## Cooling / Heating incubator KRi series



### Dish Attachment

	Heating only	Cooling/Heating
For 35mm dish	: KRIH-D35	/ KRI-D35
For 35mm dish x 2pc	: KRIH-D35-2	/ KRI-D35-2
For 50/60mm dish	: KRIH-D56	/ KRI-D56
For chamber slide and slide glass	: KRIH-SC	/ KRI-SC
For chambered coverglass	: KRIH-CGC	/ KRI-CGC

\* One of Dish Attachment is included as standard feature. Select one from Cooling/Heating Dish Attachment line.  
\* Cooling/Heating Dish Attachment has 22mm diameter opening for cooling effect and it has a heat insulating material at bottom.  
\* Heating only Dish Attachment has 28mm diameter opening.



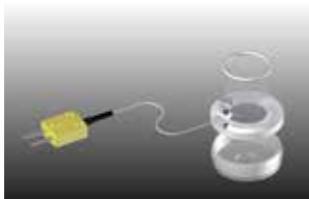
### Exclusive Sensor Lid

	Model
35mm dish	: D35-200F
For 50/For 60mm dish	: D56-200F
For chamber slide and chambered coverglass	: CSG-200F

KRi series	INUCG2-KRi	: Temp. Controller with built-in digital gas mixer.
	INUC-KRi-F1	: Temp. Controller with a gas flowmeter for premixed gas.
	INUC-KRi	: Temp. Controller only (no gas function)

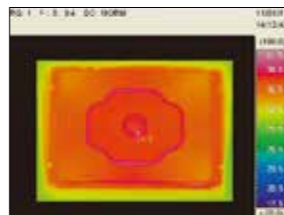
### Sample Feedback Mode - (Pat.P) Temperature Control by Feedback sensor

- The controller regulate the heater based on the sensor signal to keep it at the intended temp.
- The Sensor can be used for determining suitable Setting Value of Heater prior to experiment and enable to cell culture without inserting Sensor.



### Temp. distribution.

Provides uniform temp. distribution during Heating & Cooling.



Heating: 37.0°C



Cooling: 37.0°C

## Upright incubator UK series



UK series	INUG2-UK	Temp. Controller with built-in digital gas mixer.
	INU-UK-F1	Temp. Controller with a gas flowmeter for premixed gas.
	INU-UK	Temp. Controller only (no gas function)

### Dish Attachment

	Model
For 35mm dish	: UK-D35
For 50/60mm dish	: UK-D56
For slide glass	: UK-SG

### Opining/Closing function Top Heater

- Metal Top Heater with this function make it easy to set the object positioning before imaging.



Feedback type incubator

## LV200-MT

Olympus series

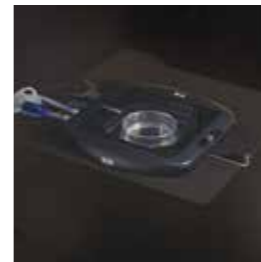
For LIMINOVIEV Bioluminescence microscope (motorized stage)

Support WellPlate, 35mm, 50/60mm dish, chamber slide, slide glass and chambered coverglass.

INUG2F-LV200-MT	: Temp. Controller with built-in digital gas mixer.
INUF-LV200-MT-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUF-LV200-MT	: Temp. Controller only (no gas function)

## MS2 for stereo microscope series

Support 35mm, 50/60mm dish.



INULG2-MS2	: Temp. Controller with built-in digital gas mixer.
INUL-MS2-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUL-MS2	: Temp. Controller only (no gas function)



### MS-SZXA Microscope

- MVX10
- SZX16
- SZX10

### Lighting intallation

- SZX2-ILLB
- SZX2-ILLK
- SZX2-ILLD



### MS-SZXB Microscope

- SZX16
- SZX10

### Lighting intallation

- SZX2-ILLT



### MS-SZX Microscope

- MVX10
- SZX16
- SZX10

### Lighting intallation

- SZX-ILLK
- SZX-ILLB
- SZX-ILLD2

## FV10i For Olympus FV10i-DOC series

Support 35mm, dish.



INUBG2-FV10i	: Temp. Controller with built-in digital gas mixer.
INUB-FV10i-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUB-FV10i	: Temp. Controller only (no gas function)

## PPZI Inverted series

Prior Nano Scan Z (NZ100/200)  
PI Piezo stage (P-545)  
Andor Piezo stage

Support 35mm, slide glass, chamber slide and chambered coverglass.

INUBG2-PPZI	: Temp. Controller with built-in digital gas mixer.
INUB-PPZI-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUB-PPZI	: Temp. Controller only (no gas function)

## PPZI3 Inverted series

Prior NZ250/400/500

Support Well Plate, 35mm, 50/60mm dish, slide glass, chamber slide and chambered coverglass.

INUBG2TW-PPZI3	: Temp. Controller with built-in digital gas mixer.
INUBTW-PPZI3-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUBTW-PPZI3	: Temp. Controller only (no gas function)

## PLAM Inverted series

Prior ASI PZ-2000/2150  
Ludl 99A602  
MCL Nano-Z500

Support Well Plate, 35mm, 50/60mm dish, slide glass, chamber slide and chambered coverglass.

INUBG2TW-PLAM	: Temp. Controller with built-in digital gas mixer.
INUBTW-PLAM-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUBTW-PLAM	: Temp. Controller only (no gas function)

## LPS Inverted series

Prior ASI PZ-2000/2150  
Ludl 99A602  
MCL Nano-Z500

Support Well Plate, 35mm, 50/60mm dish, slide glass, chamber slide and chambered coverglass.

INUBG2-LPS	: Temp. Controller with built-in digital gas mixer.
INUB-LPS-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUB-LPS	: Temp. Controller only (no gas function)

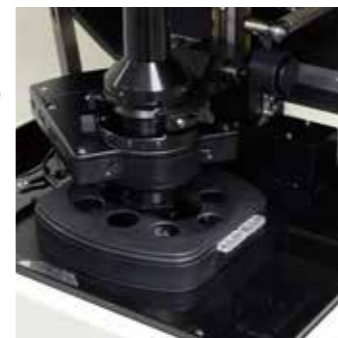
Feedback type incubator

## LV200-MT

For LIMINOVIEV Bioluminescence microscope (motorized stage)

Olympus series

Support various small dish (not WellPlate).



INUG2F-LV200	: Temp. Controller with built-in digital gas mixer.
INUF-LV200-F1	: Temp. Controller with a gas flowmeter for premixed gas.
INUF-LV200	: Temp. Controller only (no gas function)

# IX83/73HB

Save your working and setting space with built-in fan heater. There are not any air duct required.



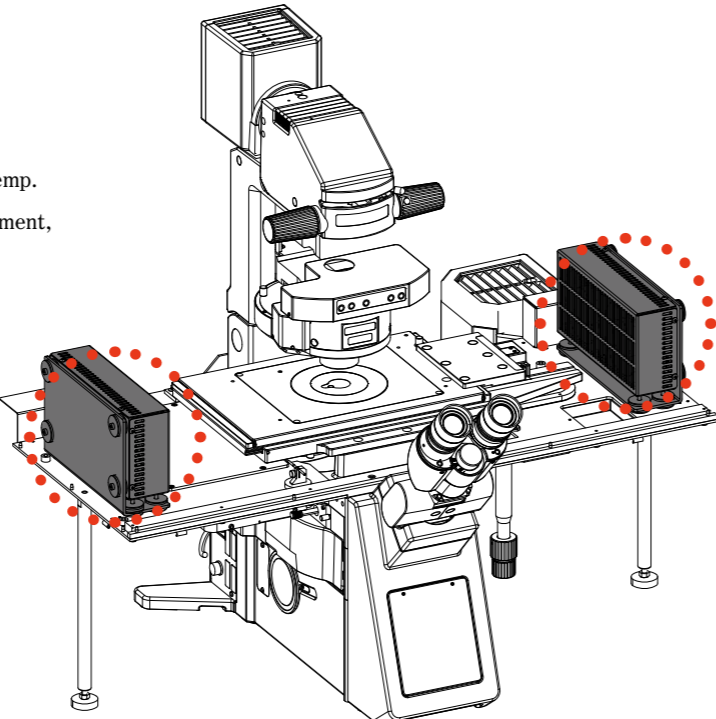
## Tokai Hit ThermoBox options for Microscopes

Maintains a stable cell culturing environment at places where Temp. alteration occurs. By isolating the microscope from the environment, it also prevents the focus drift caused by the thermal expansion of the microscope itself.



Save your working and setting space with built-in fan heater. There are not any air duct required for heating.

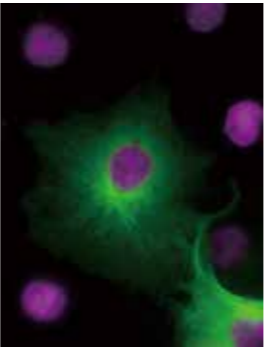
With Anti-vibration designed, the system can be used under confocal without image drift.



## ThermoBox lineup

Microscope type	Stage	type	With/Without Heater
<b>IX83/73HB</b>	<input type="checkbox"/> (Olympus standard)	<input type="checkbox"/> transparent	<input type="checkbox"/> ambient ~40°C
	LS (IX3-SVL)	BL (dark)	NH (No Heater)
	PS (PRIOR H117)		

- Combination example:  
Model: IX83HB-BK, this is dark ThermoBox for IX83 with IX3-SSU stage.
- Product selection
- ① Select support stage model.
  - ② Select the ThermoBox type (transparent or Black)
  - ③ Choose heating function (with/without)



Courtesy of Dr. Takeharu Nagai  
The Institute of Scientific and Industrial Research, Osaka University

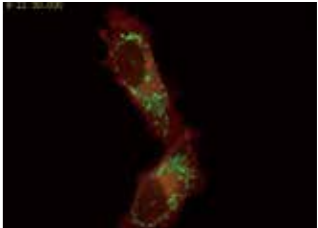
## Combination of ThermoBox and Stage top Incubator

With Stage Top Incubator with ThermoBox will increase the stability of the cell culturing environment where the room temp. is unstable, microscope close to air conditioning system, and/or when in need to stabilize the focal position without the focus-control system.



## TOKAI HIT Stage Top Incubator INU series Culture Results

attribute of cell	name	details	period
Cultured cell	<b>STO</b>	Embryo; fibroblast, mouse	<b>5day</b>
	<b>PC12</b>	Pheochromocytoma; adrenal gland, rat (male)	<b>5day</b>
	<b>HeLa</b>	Adenocarcinoma; cervix, human (female, 31 years)	<b>5day</b>
Primary	<b>Human Embryo</b>	Human embryo in vitro: from fertilization to hatching blastocyst over 7 days	<b>7day</b>
	<b>Neurons</b>	Development of rat cerebral cortical neurons	<b>4day</b>
	<b>Neural Stem Cells</b>	Proliferation of neural stem cells of 14-day-old rat embryo	<b>7day</b>
	<b>Neural Stem Cells</b>	Differentiation of rat neural stem cells to neurons and glial cells	<b>7day</b>
	<b>Hippocampal Neuron</b>	E18 rat hippocampal neurons, cultured in CO2 incubator for the first day, followed by observation in INU up to five days	<b>3day</b>
	<b>Cardiac Myocyte</b>	Neonatal rat heart, fetal mouse (13 days embryo) heart, observation of heart beat synchronization	<b>3day</b>



Courtesy of Dr. Takeharu Nagai  
The Institute of Scientific and Industrial Research, Osaka University



Courtesy of Dr. Kazuo Yamagata  
Department of Genetic Engineering, Kinki University



Visit <http://www.tokaihit.com> for more details regarding our products. (Accessible from the QR code)

Description	STX series	STR series	INU series
<b>Top Heater</b>	Strengthen Heater	Strengthen Heater	Glass Heater
<b>Interface / Control</b>	PC and touch-panel	Touch-panel	Temp. regulator
<b>Sample Feedback regulation</b>	<input type="radio"/> (included)	<input type="checkbox"/> (optional)	<input type="radio"/> (included)
<b>Program Control</b>	<input type="radio"/> (included)	N/A	N/A
<b>Stage Heater regulation method</b>	Continuous Current	ON/OFF	Continuous Current
<b>Temp. Accuracy</b>	± 0.1°C	± 0.3°C	± 0.1°C
<b>Periodic Control</b>	0.5s	0.5s	2.0s
<b>CO2 concentration range</b>	5.0 ~ 20%	5.0 ~ 20%	Fixed 5%
<b>CO2 concentration Control</b>	Auto	Auto	Auto
<b>Screen Capture &amp; Picture transfer</b>	<input type="radio"/> (included)	N/A	N/A
<b>Available reference Setting Value</b>	"Sample Temp. 37.0°C Room Temp. 20 ~ 22°C / 23 ~ 26°C / 27 ~ 28°C Vessel: small vessels • WellPlate"	"Sample Temp. 37.0°C Room Temp. 25°C Vessel: 35mm dish only"	"Sample Temp. 37.0°C Room Temp. 25°C Vessel: 35mm dish only"
<b>PC logging</b>	<input type="radio"/> (included)	N/A	<input type="radio"/> (included)
<b>SET (included Dish Attachments)</b>	<input type="radio"/> (included)	<input type="radio"/> (included)	N/A
<b>Lens Heater</b>	"Type: Rubber Magnetic junction cable"	"Type: Rubber Magnetic junction cable"	Type: Velcro
<b>Dish Attachment model name</b>	ATX	ATX	UNIV/UNIV2
<b>Dish fixing method</b>	Magnet	Magnet	Flat spring
<b>Add-on chamber unit (compatibility)</b>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/> (re-calibration require)
<b>Gas tube type</b>	Pisco (one touch)	Pisco (one touch)	Silicon tube
<b>Add-on options models</b>	STX-CO2, STX-O2, STX-CO2O2, KSX-TYPE1, KSX-TYPE2	STX-CO2, STX-O2, STX-CO2O2, KSX-TYPE1, KSX-TYPE2	GM-8000, GM-4000, GM-2000, KS-TYPE1, KS-TYPE2
<b>Microscope software (compatibility)</b>	-	-	NIS-Element, LAS-X, Metamorph
<b>Sample heating regulation</b>	Temperature gradient(Top Heater)	Heat conduction(Bottom Heater)	Heat conduction(Bottom Heater)
<b>Detachable Lens Heater</b>	<input type="radio"/>	×	×

\* For details, please contact Tokai Hit. Depending on the microscope peripheral equipment (camera, stage, etc) use, they composed accessories may require to change.

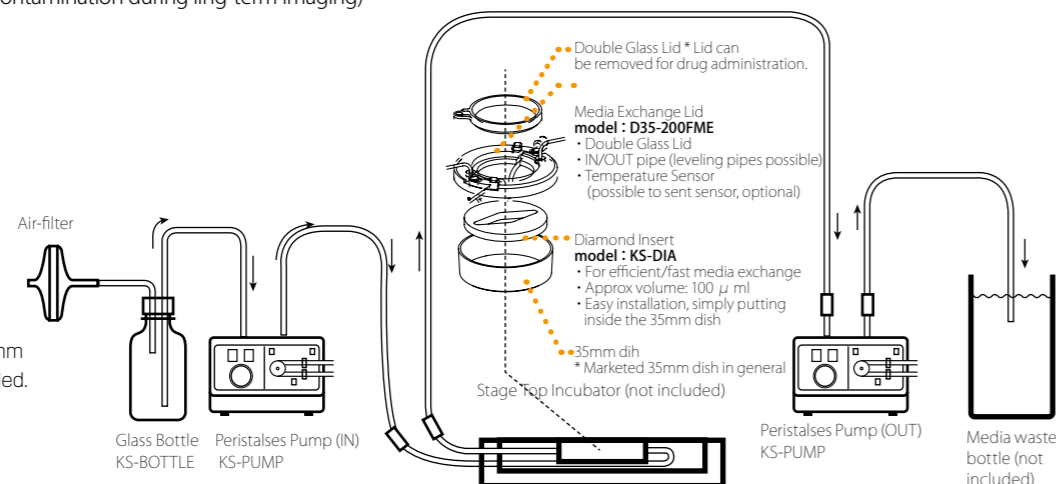
## Add-on options

### Perfusion/Media exchange system

For marketed 35mm dishes, allows exchange media without removing dish lid.  
(prevents media evaporation and contamination during long-term imaging)

Model  
**KSX-Type 1** (for STX/STR series)  
**KS-Type 1** (for INU series)

Components:  
D35-200FME, KS-DIA  
KS-PUMPx2, KS-BOTTLE  
Pump flow rate: 0.27 - 3.8ml  
Pump size: W168xD120xH115  
Silicon tube: outer dimension 3.0mm  
\* Media waster bottle is not included.

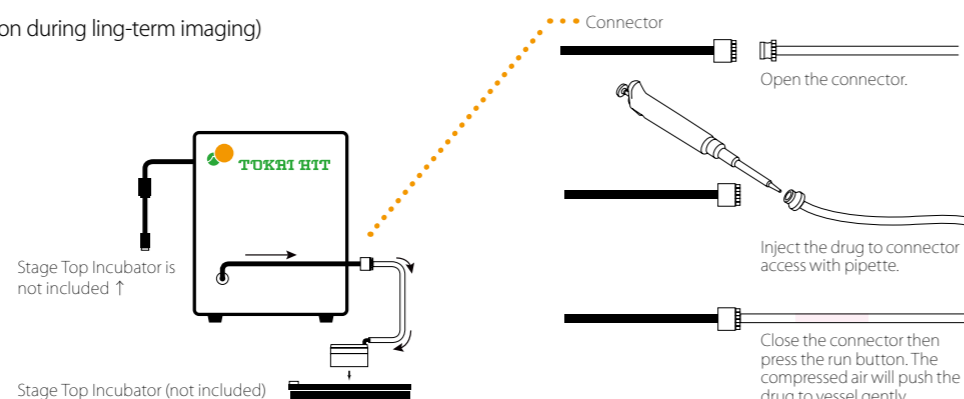


### One Push Drug Delivery system

Rapid and vibration-free drug administration possible. Drug administration without allows removing dish lid.  
(prevents media evaporation and contamination during long-term imaging)

Model  
**KSX-Type 2** (for STX/STR series)  
**KS-Type 2** (for INU series)

Specification  
Dosage: 20-100ml  
(contact us if different dosage is needed)  
Controller: W168 x D120 x H115mm  
Silicon tube: outer dimension 3.0mm

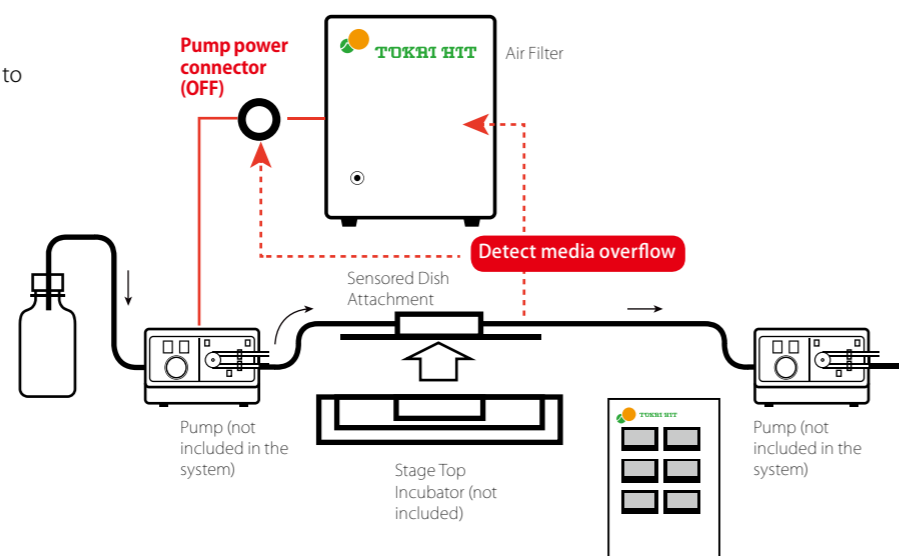


### Media Leakage Detector

Detect the media leakage and stop the media pump to prevent damage to microscope.

Model  
**LM-UNIV2-D35**  
**LM-UNIV-D35**

Controller:  
Shuts down electricity as soon as it detects leakage.  
Sensored Dish Attachment:  
Place it inside the chamber unit.



**GM**

Digital Gas Mixer

Model **GM-8000**

Hypoxia / Pre-condition use

O<sub>2</sub> concentration range: 0.1 - 18.0%  
CO<sub>2</sub> concentration range: 5.0 - 20.0%

Simple procedures to obtain a hypoxia condition, can be used as CO<sub>2</sub> gas mixing device.  
(requires 100%CO<sub>2</sub> and 100%N<sub>2</sub> gas cylinder)



Model **GM-4000**

For supplying varied CO<sub>2</sub> concentration (5.0 - 20.0%).  
(requires 100%CO<sub>2</sub> gas cylinder)

Gas flow range:  
50ml/min - 200ml/min



Model **GM-2000**

For supplying fixed 5%CO<sub>2</sub>.  
(requires 100%CO<sub>2</sub> gas cylinder)

CO<sub>2</sub> concentration: fixed 5%



### Digital Thermometer for research

Fine Sensor with Precision thermometer set: The system is calibrated as a set to obtain an accurate Temp. measurement. Teflon-coated fine sensor probe has high chemical resistance and prevents heat transfer of measured object.



### Digital Thermometer

model: **MC1000**  
(K type thermocouple)

Indicates Temp. by 1 degree C / 0.1 degree C units

Content includes:  
· Digital thermometer  
· Thermo probe  
(Model: TSU-200F)

### Thermo probe



Model: **TSU-200F**  
Teflon-coated fine (1.0mm) sensor probe has high chemical resistance and prevents heat transfer of measured object.  
Extension cable (1.5m)  
model: **HD-1500** (optional for MC1000)  
Width of tip: 2.5mm / Tip thickness: 0.5mm

### Magnet Fixing Block

For open dish media exchange and drug administration use (e.g. upright microscope)



### Dish Attachment for Media Exchange / Drug delivery Magnet Fixing Block

Model:  
PSBD1 Pipe OD1.1mm  
PSBD1H Pipe OD1.1mm / ID0.8mm  
PSBD2 Pipe OD2.1mm  
PSBD2H Pipe OD2.1mm / ID1.0mm



Exclusive Dish Attachment for PSBD1H/2H  
Model:  
**KS-** (Chamber name)  
**-D35**

### Exclusive spacers for Griner, IWAKI, and Nunc 35mm dishes

recommend to equip at the bottom of the dish

Above brand vessels has cut-out at the bottom. From the cut-out, humidity, CO<sub>2</sub> and temperature will be leaking out from chamber unit and may build the condensation on the objective.



Spacer for Iwaki  
model: **35DI-B5**



Spacer for Griner and Nunc  
model: **35DGN-B5**

### Injection Access Port

(for INU series)

Modified solution access ports on the Top Heater allows drug administration without opening the Top Heater.

Model: **H2** (dual port)  
Model: **H1R** (one port on right)  
Model: **H1L** (one port on left)  
※ we can correspond to various custom orders



## Custom Orders

Feel free to contact us about your needs. Our experienced staff and engineers are more than happy to take your custom requests for different types of applications and/or conditions. We manufacture custom products more than 100 orders per year.

### Customization

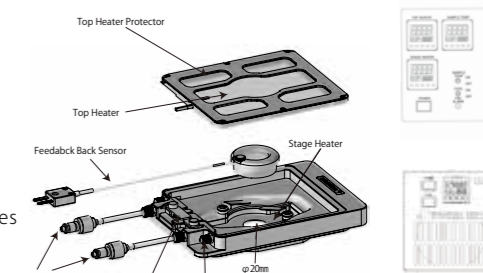
#### Incubation device for MED64 System

This device has been designed on the assumptions of an experiment of electrophysiology. Enabled the low noise attribution under the cell culturing environment.



#### KRP Series Cooling Heating Chamber

- For Inverted Microscope
- Range of preset Temp.  
[When using dry lenses with long focus]  
15 degree C ~ 40 degree C (Sample Temp.)  
[When using oil immersion or dry lenses with short focus]  
20 degree C ~ 40 degree C (Sample Temp.)
- Support vessels: 35mm dishes, Slide Glass
- Temperature Feedback Control
- The glass heater (lid of the chamber) prevents the condensation which usually occurs when the Temp. increases.
- CO<sub>2</sub> gas inlet available
- Allows precise sample Temp. adjustment. Possible to adjust sample Temp. close to room Temp. This system has both cooling and heating function. By automatically shifting the function, it allows the stable and smooth Temp. control.



We have designed multiple attachments and/or fixing holders for various vessels like original PDMS, marketed fluidic dish, etc. Please feel free to contact Tokai Hit.

# ThermoPlate®

## Pursues high-end "User-Friendliness"

Ensures more accurate and more reliable thermal control of the specimens during the observation under a microscope.  
Wide product range supports Biotechnology Science and Industry.



# TPX

Premium Series

**10** 10year warranty  
Stress-Free from glass breakage

10 years glass breakage warranty.  
No more glass breakage, no more stopping your experiment.  
TPX series can be identified by the orange line around glass heater.



Addition to high performance of TP series, Strength glass and 10 year warranty are applied.  
You will experiment as you plan by Stress-Free from glass breakage.



Human Embryo Development in vitro Pictures courtesy of Dr.Nikica Zaninovic, Dr.Richard Bodine and Dr.Lucinda Veeck Gosden,Center for Reproductive Medicine and Infertility,Weill Medical College of Cornell University, New York, USA



Environmentally and user-friendly design Along with its great functionality and high performance, TPX's new design creates a warm, relaxed lab environment.



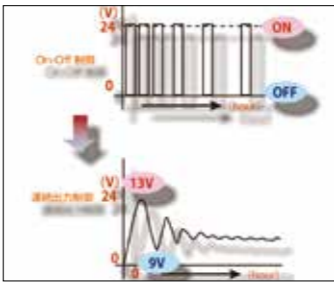
[Enables ease of temperature measurement]  
Sterilized sensor can measure the actual temperature of the sample and/or the surface of the plate.



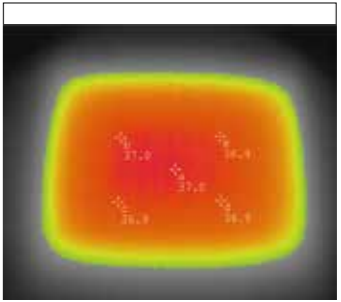
Temperature Management Software  
TEM Monitors, records and logs sample or plate temperature.



Saves data in CSV format.  
The software include the calibration and heating off-set function.



Saves data in CSV format.  
The software include the calibration and heating off-set function.



Accurate and even Temp. distribution on microscope stage.

**TPX-110R**  
Inverted



Stage: stage with 110(mm) diameter opening  
Size: Φ 110(mm)  
Heating area: W70 x D70(mm)  
Glass thickness: 0.5(mm)  
Setting range: ambient - 60°C



Stage: stage with 160x110(mm) opening (general XY motorized stage)  
Size: W160xD110(mm)  
Heating area: W128 x D94(mm)  
Glass thickness: 0.5(mm)  
Setting range: ambient - 60°C

**TPX-S**  
Upright



Microscope: general upright microscope  
Stage: XY mechanical stage  
Size: W142 x D115 x H5(mm)  
Heating area: W128 x D95(mm)  
Glass thickness: 1.0(mm)  
Setting range: ambient - 60°C

**TPX-SZX2A**  
Stereo



Base: SZX2-ILLB, SZX2-ILLD, SZX2-ILLK  
Size: W236 x D207 x H7(mm)  
Heating area: W162 x D152(mm)  
Glass thickness: 1.0(mm)  
Setting range: ambient - 50°C

**TPX-UNI**



Stage: general illuminator base  
Size: W430 x D211 x H10(mm)  
Height adjustable range: 75-100(mm)  
Heating area: W400 x D175(mm)  
Glass thickness: 1.5(mm)  
Setting range: ambient - 50°C

## Standard

### Tokai Hit's Glass Heater Standards

Our original clear glass heater maintains stable Temp. management.

Supports the needs in different various fields such as Time-lapsing in low-magnification, and or/ IVF field.

■ Comes with thermo sensor and Temp. management software (TEM)



## For Imaging

Temp. setting range: ambient - 50°C

### For immersion objective (oil/water) and high-magnification objectives imaging

Focus drift is always a problem. For heating plate system, it usually is caused by ordinary ON/OFF regulation. Tokai Hit imaging plate is applying Continuous Current Control regulation as standard minimizing focus drift generated by heat compared to the standard ON-OFF Control.



■ Comes with thermo sensor and Temp. management software (TEM)

Size: W98 x D145 x H117mm  
\* standard controller color is white.

## For Cooling/Heating

Temp. setting range: 4°C - 60°C

### Best for observing yeast, plants, marine samples, cell incubation, C. elegans, and/or planarian, etc

This system has both cooling and heating function. By automatically shifting the function, it allows the stable and smooth Temp. control.

■ INCOMPATIBLE with the TEM software and/or the temperature sensor lid.



## Inverted

Support microscopes

**IX83/73**  
**IX81/71/51**  
**IX70/50**  
**IMT2**

Stage: stage with 110mm diameter opening

Standard



Model **TP-110R13**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 1.3 (mm)

Size: Φ 110mm

Imaging



model **TP-110RH26**  
Metal Heating Plate type  
Setting range: ambient - 50°C

Size: Φ 110 (mm)

Cooling/Heating



model **TP-CH110RBF-C**  
(with chiller unit)  
Metal Heating Plate type  
Setting range: 4 - 60°C

Size: Φ 110 (mm)  
(bottom surface is flat)



Model **TP-CH110R-C**  
(with chiller unit)  
Metal Heating Plate type  
Setting range: 4 - 60°C

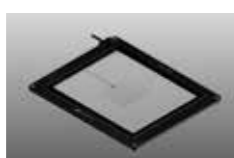
Size: Φ 110 (mm)  
(bottom surface is flat)

Support microscopes

**IX83/73**

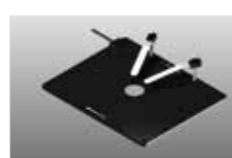
For IX3-SVR: manual stage  
For IX3-SSU: motorized stage  
(stage with 156x190mm opening)

Standard



Model **TP-IX3-05/TP-IX3**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 0.5mm / TP-IX3-05  
1.0mm / TP-IX3  
Size: W189.5 x D155.5 (mm)

Imaging



Model **TP-IX3H26**  
Metal Heating Plate type  
Setting range: ambient - 50°C

Size: W189.5 x D155.5 (mm)

Support microscopes

**IX series**

For general XY motorized stage  
(stage with 110x160mm opening)

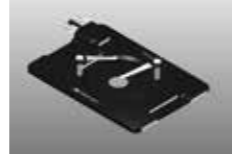
Imaging



Model **TP-SQH26**  
Metal Heating Plate type  
Setting range: ambient - 50°C

Size: W159.8 x D109.8 (mm)

Cooling/Heating



Model **TP-CHSQ-C**  
(with chiller unit)  
Metal Heating Plate type  
Setting range: 4 - 60°C

Size: W159.8 x D109.8 (mm)

Support microscopes

**IX series**

For Prior H117 series

Standard



Model **TP-SQP05/TP-SQP**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 0.5mm / TPSQP05  
1.0mm / TP-SQP  
Size: W159.8 x D109.8 (mm)

Imaging



Model **TP-SQH26P**  
Metal Heating Plate type  
Setting range: ambient - 50°C

Size: W159.8 x D109.8 (mm)

Support microscopes

**CKX41/31**  
**CK40/30/2**

For XY mechanical stage

Standard



Model **TP-CK05/TP-CK**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 0.5mm / TP-CK05  
1.0mm / TP-CK  
Size: W127 x D85 (mm)



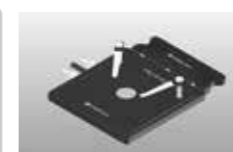
Model **TP-CKTS05/CKTS**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 0.5mm / TP-CKTS05  
1.0mm / TP-CKTS  
Size: W150 x D110 (mm)

## Upright

Support microscopes  
**POWER BX/BX**  
(U-SVL0/SVR0/SVLB-4/SVRB-4)

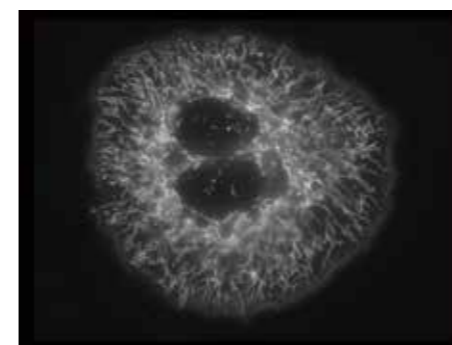
**BH2**  
**CX40**  
**CH40/30**

Cooling/Heating



Model **TP-CHS-C**  
(with chiller unit)  
Metal Heating Plate type  
Setting range: 4 - 60°C

Size: W110 x D110 (mm)



## Stereo

Support microscopes  
**SZX16/SZX10**  
(SZX2-ILLT)

Support microscopes  
**MX10**  
**SZX12/9/7**  
(SZX-ILLK, SZX-ILLB2,  
SZX-ILLD2)

Support microscopes  
**SZX7/SZ61**  
(SZ2-ST+SZ2-ILA)

Support microscopes  
**SZ60/40/11**

Standard



Model **TP-SZX2B**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 1.0 (mm)  
Size: W222 x D212 (mm)

Standard



Model **TP-SZX**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 1.0 (mm)  
Size: W205 x D201.5 (mm)

Standard



Model **TP-SZ2**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 1.0 (mm)  
Size: W278 x D175 (mm)

Standard



Model **TP-OZ**  
Glass Heating Plate type  
Setting range: ambient - 50°C  
Glass thickness: 1.0 (mm)  
Size: W180 x D195 (mm)

### Large Glass type Standard



Model **TP-W**  
· Glass Heating Plate type  
· Setting range: ambient - 60°C  
· Glass thickness: 1.6 (mm)

Size :  
W230 X D180 (mm)



Model **TP-WL**  
· Glass Heating Plate type  
· Setting range: ambient - 60°C  
· Glass thickness: 1.6 (mm)

Size :  
W300 X D200 (mm)

### Lens Heater



Model **TP-LH**  
· Setting range: ambient - 45°C

It is a New Rubber heater. The stretch designed will fit many different types of objective lenses (up to 40mm diameter). Strongly recommended to use when observing in high-magnification using an oil/water immersion lenses.

### Tube Heater



Model **TP-TH**  
· Setting range: ambient - 50°C  
The barrel-type Heater. Simply wrap the media tubing for heating the media before inserting it to chamber unit. It is a compact and easy setting system.



Visit <http://www.tokaihit.com> for more details regarding our products.  
(Accessible from the QR code)